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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TERESINSKI, JOHN

ART UNIT PAPER NUMBER

2858

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/775,676

Applicant(s)

KISTER ET AL.

Examiner

John Teresinski

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mw

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,667,149 to Cohen et al. in view of U.S. Patent No. 4,423,373 to Le Croy.

Regarding claims 1 and 11, Cohen et al. disclose a probe apparatus and method for testing a circuit chip/semiconductor (column 3 lines 15-20) comprising a probe group having two or more probes (Fig. 1 elements 10-13) and allowing a test path resistance to be measured without affecting circuit chip/semiconductor (column 1 lines 8-9) and probes for conductively contacting a single terminal of a chip/semiconductor (column 3 lines 15-20, Fig. 1 elements 10-13). Cohen et al. does not disclose two or more probes within a guiding boundary for independently conductively contacting a single terminal of a chip. Le Croy discloses that it is well known for probe apparatuses to include a guiding boundary for a probe group having two or more probes (Fig. 2 elements 42,44 and 50) for independently conductively contacting a single terminal of a chip/semiconductor device (column 7 lines 3-15, Fig. 5 elements 86-88). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a guiding boundary for a probe group as taught by Le Croy into Cohen et al. for the purpose of providing a test probe having a wide versatility which can be brought into contact with a target site over a wide range of angles (column 2 lines 3-11).

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Regarding claim 5, Cohen et al. does not disclose buckling beam probes. Le Croy discloses the utilization of buckle beam/retracting probes (column 7 lines 34-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include buckling beam/retracting probes as taught Le Croy into Cohen et al. for the purpose of providing relatively good contact between probes and target site (column 7 lines 35-54).

Regarding claims 6-8, Cohen et al. does not teach a bundled probe group in a single perforation of a sheath, a single perforation that is a long hole, or a single perforation in the shape of a circular hole. Le Croy teaches bundled probes in a single perforation (Fig. 3A), a long hole (Fig. 3A) and a circular opening (Fig. 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a perforation for the bundled probes, a long hole perforation or a circular opening perforation as taught by Le Croy into Cohen et al. for the purpose of permitting longitudinal movement of the probes (column 7 lines 35-40).

Regarding claim 9, Cohen et al. disclose probe tips that are rotationally symmetric with a non planar contact surface (Fig. 1 elements 10-13).

Claims 2-4, 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al. and Le Croy as applied to claim 1 above, and further in view of U.S. Patent No. 6,218,848 to Hembree et al..

Regarding claim 2, Cohen et al. in view of Le Croy does not disclose an electronic circuit compensating a voltage drop of an operational signal passing through at least one of the probes. Hembree et al. disclose a probe apparatus with multiple probes for testing a circuit chip (column 2 lines 35-40) including a resistivity measuring circuit that evaluates path resistance of contacts

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(column 2 lines 53-56) and compensates test signal voltages accordingly (column 3 lines 6-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include compensation of the voltage drop as taught by Hembree et al. into Cohen et al. and Le Croy to compensate for contaminants which may be on the surface of a terminal during evaluation of testing signals (column 2 lines 12-30).

Regarding claims 3 and 12, Cohen et al. does not disclose the use of three probes. Le Croy discloses that it is well known to use three probes for resistivity measurements (column 1 lines 43-56). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the use of three probes as taught by Le Croy into Cohen et al. for the purpose of establishing a good contact over a wide range of tolerances to provide an accurate testing (column 1 lines 33-44).

Regarding claim 4, Cohen et al. discloses a group of four probes and circuitry capable of recognizing a test path resistance according to a 4-Wire Ohm's Measurement (column 3 lines 15-20).

Regarding claims 10, Cohen et al. in view of Le Croy do not disclose essentially spherical probe tips. Hembree et al. disclose probe contacts with essentially spherical shape (column 7 line 11 & Figure 5A). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include spherical probe tips as taught by Hembree et al. into Cohen et al. and Le Croy for the purpose of providing an electrically engaging probe tips that establish a good contact (column 7 lines 10-15).

***Response to Arguments***

Applicant's arguments filed July 25, 2003 have been fully considered but they are not persuasive.

In response to applicant's arguments that Le Croy does not disclose two or more probes within a guiding boundary the examiner disagrees. Applicant is referred to Le Croy (column 7 lines 34- 54, Fig. 6 elements 96 and 98), which clearly shows a guiding boundary/support block.

In response to applicant's arguments that Le Croy does not disclose two or more probes bundled together the examiner disagrees. Applicant is referred to claims 1 and 11 of the current application, there is no mention of bundled probes.

In response to applicant's arguments that Le Croy does not disclose independent conductive contacting the examiner disagrees. Applicant is referred to Le Croy (column 5 lines 20-29), which teaches that the probes display independent conductive/ electrically isolated contacting.

In response to applicant's arguments that the combination of Cohen et al. and Le Croy does not disclose the independent conductive contacting the examiner disagrees. Applicant is referred to claim 11 of the current application, there is no mention of independent conductive contacting in claim 11.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Teresinski whose telephone number is (703) 305-4746. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (703) 308-0750. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JT  
JT

October 17, 2003

  
N. Le  
Supervisory Patent Examiner  
Technology Center 2800